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WHAT IS CLAIMED IS

1. A system for treating the heart, comprising:

a cardiac harness configured to conform generally to at least a portion of a patient's heart;

at least one electrode associated with the cardiac harness and positioned proximate to an outer surface of the heart;

the at least one electrode connected to a power source; and

the cardiac harness and the at least one electrode configured to be delivered minimally invasively.

2. The system of claim 1, wherein two electrodes are associated with the cardiac harness.

3. The system of claim 2, wherein one electrode is positioned proximate left ventricle and one electrode is positioned proximate the right ventricle.

4. The system of claim 1, wherein three electrodes are associated with the cardiac harness.

5. The system of claim 4, wherein two of the electrodes are positioned proximate the left ventricle and one electrode is positioned proximate the right ventricle.

6. The system of claim 4, wherein two of the electrodes are positioned proximate the right ventricle and one electrode is positioned proximate the left ventricle.

7. The system of claim 1, wherein four electrodes are associated with the cardiac harness.

8. The system of claim 7, wherein two electrodes are spaced apart and positioned proximate the left ventricle and two electrodes are spaced apart and positioned proximate the right ventricle.

9. The system of claim 1, wherein the cardiac harness is coated with a dielectric material.

10. The system of claim 9, wherein the dielectric material is taken from the group of dielectric materials consisting of silicone rubber, Parylene™, polyurethanes, PTFE, TFE, and ePTFE.

11. The system of claim 1, wherein at least a portion of the at least one electrode is coated with a dielectric material.

12. The system of claim 11, wherein the dielectric material is taken from the group of dielectric materials consisting of silicone rubber, Parylene™, polyurethanes, PTFE, TFE, and ePTFE.

13. The system of claim 1, wherein the cardiac harness is coated with a dielectric material and the at least one electrode is at least partially coated with the dielectric material so that the cardiac harness and the at least one electrode are attached by the dielectric material.

14. The system of claim 13, wherein the dielectric material is taken from the group of dielectric materials consisting of silicone rubber, Parylene™, polyurethanes, PTFE, TFE, and ePTFE.

15. The system of claim 14, wherein the at least one electrode has a first surface not coated with the dielectric material and is proximate the outer surface of the heart, and a second surface not coated with the dielectric material and not in contact with the heart.

16. The system of claim 1, wherein at least one non-conductive coil is attached to the cardiac harness.

17. The system of claim 1, wherein the cardiac harness is formed from a metal alloy.

18. The system of claim 17, wherein the metal alloy is taken from the group of metal alloys consisting of nickel-titanium (NiTi), nickel-titanium-vanadium (NiTiVa), stainless steel, cobalt-chromium (CoCr), tantalum (Ta), titanium (Ti), superelastic alloys, shape memory alloys, MP35N, platinum-iridium, and Elgiloy™.

19. The system of claim 1, wherein the cardiac harness further comprises undulating strands arranged in rows to form panels.

20. The system of claim 19, wherein the undulating strands are interconnected.

21. The system of claim 20, wherein the interconnections comprise interconnecting elements.

22. The system of claim 21, wherein the interconnecting elements connect adjacent undulating strands.

23. The system of claim 22, wherein the interconnecting elements are made from a dielectric material.

24. The system of claim 23, wherein the dielectric material forming the interconnecting elements is taken from the group of dielectric materials consisting of silicone rubber, Parylene™, polyurethanes, PTFE, TFE, and ePTFE.

25. The system of claim 21, wherein the interconnecting elements are linear.

26. The system of claim 21, wherein the interconnecting elements are non-linear.

27. The system of claim 21, wherein the interconnecting elements are formed from silicone and rubber and have a first surface and a second surface, the first surface contacting the outer surface of the heart.

28. The system of claim 27, wherein the interconnecting elements include projections on the first surface to increase gripping force between the interconnecting element and the outer surface of the heart.

29. The system of claim 19, wherein there is no overlap between the undulating strands and the at least one electrode.

30. The system of claim 1, wherein the at least one electrode is in the form of a coil.

31. The system of claim 30, wherein the coil has a hollow core.

32. The system of claim 31, wherein the hollow core is at least partially filled with a dielectric material.

33. The system of claim 32, wherein the coil has gaps, the gaps being separated by the dielectric material.

34. The system of claim 30, wherein the coil has a generally cylindrical cross-section.

35. The system of claim 30, wherein the coil has a generally oval cross-section.

36. The system of claim 30, wherein the coil has a generally rectangular cross-section.

37. The system of claim 30, wherein the coil has a generally triangular cross-section.

38. The system of claim 19, wherein at least one electrode is positioned between adjacent panels.

39. The system of claim 19, wherein the cardiac harness has four panels and four electrodes, the electrodes being positioned between adjacent panels.

40. The system of claim 19, wherein the cardiac harness has a plurality of alternating panels and electrodes.

41. The system of claim 1, wherein the cardiac harness has undulating strands for applying a compressive force on the heart during diastole and systole.

42. The system of claim 1, wherein multiple electrodes are associated with the cardiac harness, a first set of electrodes positioned to deliver a defibrillating shock, and a second set of electrodes positioned for sensing heart functions and for providing a pacing therapy including synchrony of the ventricles, resynchronization, bi-ventricular pacing and left ventricular pacing.

43. The system of claim 1, wherein the cardiac harness is configured to deliver a defibrillating shock and the at least one electrode is positioned for sensing heart functions and for delivering biventricular pacing stimuli.

44. The system of claim 1, wherein the cardiac harness is configured to deliver a defibrillating shock and multiple electrodes are positioned for sensing heart functions and for providing a pacing therapy including synchrony of the ventricles, resynchronization, bi-ventricular pacing and left ventricular pacing.

45. A system for treating the heart, comprising:

a cardiac harness configured to conform generally to at least a portion of the heart;

a plurality of electrodes attached to the harness by a dielectric material, the electrodes being positioned proximate an outer surface of the heart;

the electrodes being connected to a power source; and

the system being configured to be implanted minimally invasively so that the cardiac harness covers a substantial portion of the heart.

46. The system of claim 45, wherein the harness has a first length and the electrodes have a second length, the first length being different than the second length.

47. The system of claim 45, wherein the cardiac harness has panels separated by the electrodes, the electrodes being substantially equidistant apart around the circumference of the heart.

48. The system of claim 47, wherein the electrodes being spaced about 180° apart.

49. The system of claim 47, wherein the electrodes being spaced about 120° apart.

50. The system of claim 47, wherein the electrodes being spaced about 90° apart.

51. The system of claim 47, wherein the electrodes being spaced about 60° apart.

52. The system of claim 47, wherein the electrodes being spaced about 45° apart.

53. The system of claim 47, wherein the electrodes being arbitrarily spaced about the cardiac harness.

54. The system of claim 45, wherein the electrodes are formed from coils.

55. The system of claim 54, wherein the coils are flexible and have sufficient column strength to assist in the minimally invasive delivery and implantation of the cardiac harness.

56. The system of claim 45, wherein at least one of the electrodes provides biventricular pacing and sensing and at least one of the electrodes provides a defibrillation shock.

57. A system for treating the heart, comprising:

a cardiac harness configured to conform generally to at least a portion of a patient's heart;

a first set of electrodes attached to the cardiac harness and positioned proximate the outer surface of the heart for providing a defibrillation shock;

a second set of electrodes attached to the cardiac harness and positioned on the surface of the heart for providing sensing and pacing of heart functions; and

the first and the second set of electrodes being connected to one or more power sources.

58. The system of claim 57, wherein the cardiac harness and the first and second set of electrodes being configured to be delivered minimally invasively.

59. The system of claim 58, wherein the first set of electrodes includes four electrodes, two of the electrodes being positioned proximate the left ventricle and two of the electrodes being positioned proximate the right ventricle.

60. The system of claim 59, wherein the second set of electrodes include at least one electrode positioned to be in direct contact with the epicardial surface of the heart to provide sensing of heart functions and providing a pacing therapy including synchrony of the ventricles, resynchronization, bi-ventricular pacing and left ventricular pacing.

61. The system of claim 57, wherein the second set of electrodes are positioned in direct contact with the epicardial surface of the heart to provide sensing of heart functions and for generating pacing stimuli to provide synchrony between the left ventricle and the right ventricle.

62. The system of claim 57, wherein the second set of electrodes are positioned in direct contact with the epicardial surface of the heart to provide sensing of heart functions and for generating pacing stimuli for resynchronization therapy.

63. The system of claim 57, wherein the second set of electrodes are positioned in direct contact with the epicardial surface of the heart to provide sensing of heart functions and for generating pacing stimuli for biventricular pacing.

64. The system of claim 57, wherein the second set of electrodes are positioned in direct contact with the epicardial surface of the heart to provide sensing of heart functions and for generating pacing stimuli for left ventricular pacing.